COLLABORATIVE ECONOMIC ANALYSIS

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Lower Snake River Juvenile Salmon Migration Feasibility Study - Economic Analysis

Walla Walla District

COLLABORATIVE ECONOMIC ANALYSIS

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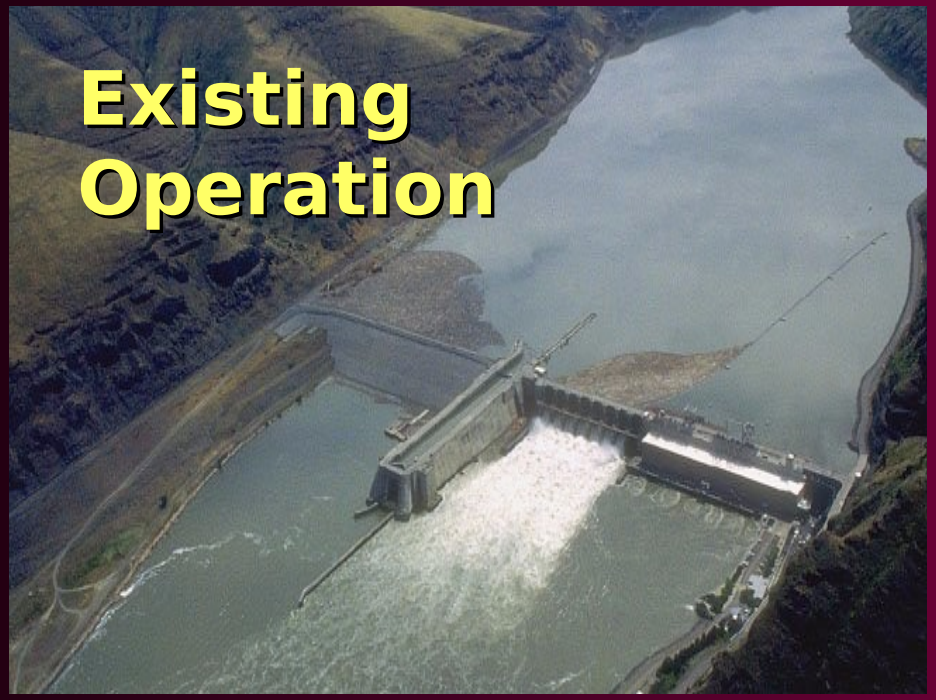
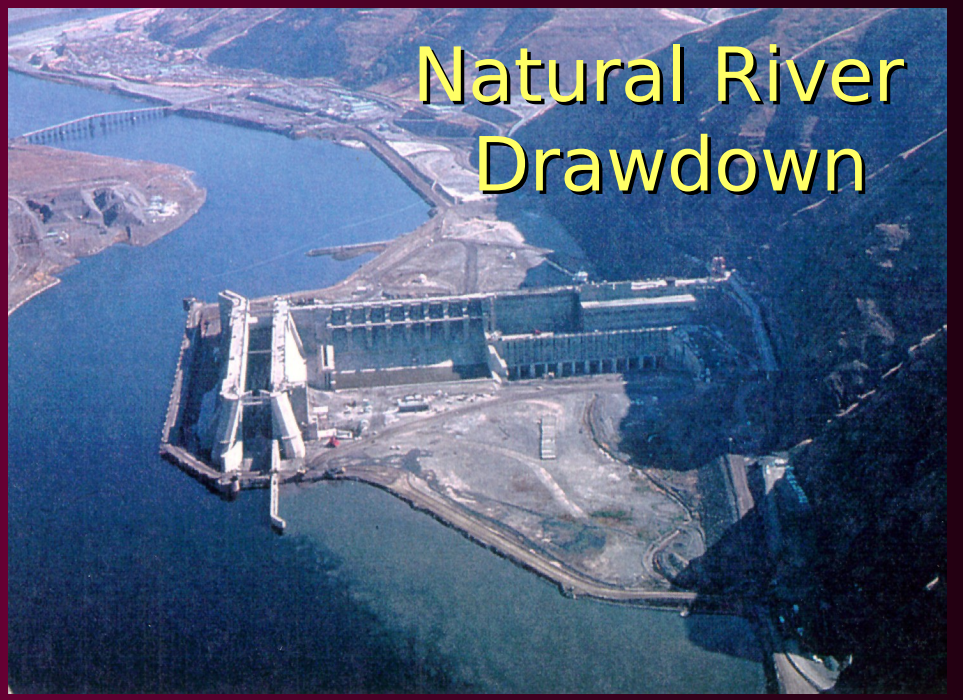
- Study Summary
- Drawdown Regional Economic Workgroup
- Hydropower Sub-Workgroup Example
- Lessons Learned

Background

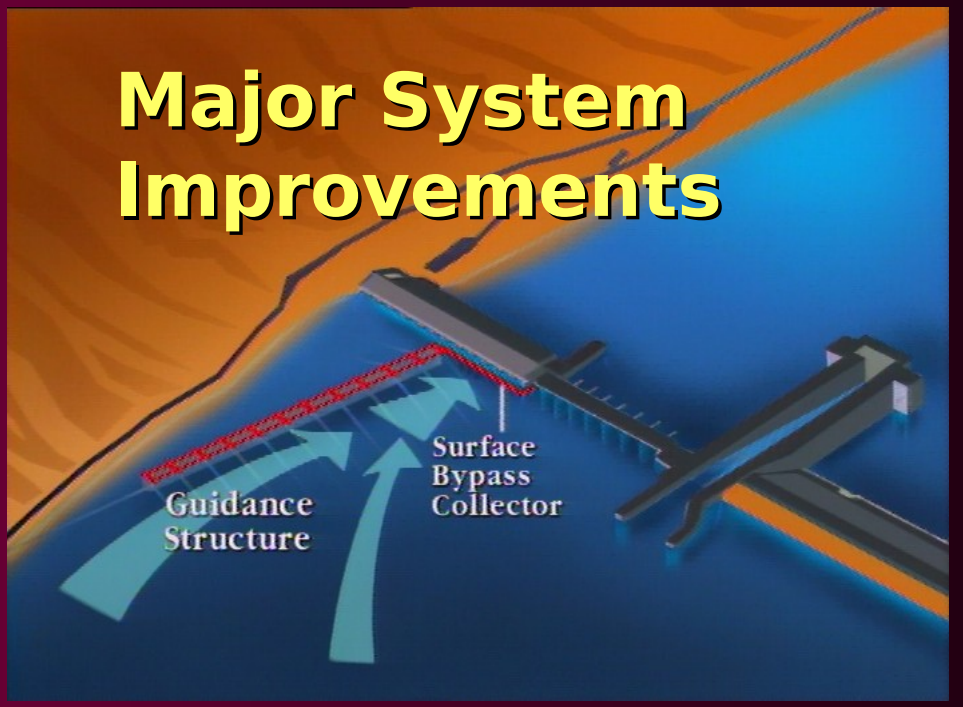
- ESA listing of Salmon & Steelhead
- Lower Snake River Juvenile Salmon Migration Study
- Identify & Define Alternatives for Species Recovery
- Comprehensive Evaluation & Report
- Several Agencies Recognized the Need for Consensus Economic Estimates

Lower Snake and Columbia Projects
Canada
U.S.
Montana
Columbia R.
Seattle
Washington
Lower Monumental
Little Goose
Lower Granite
Ice Harbor
The Dalles
McNary
Idaho
Portland
Bonneville
John Day
Oregon
N
Snake River





ALTERNATIVE PATHWAYS



RAWDOWN REGIONAL ECONOMIC WORKGROU (DREW)

An economic workgroup was formed by regional interests to conduct the economic studies. The work group includes representatives from:

- Corps of Engineers
- BPA
- USF&WS
- Power Planning Council
- Tribes
- Public Entities
- Others
- Bureau of Reclamation
- National Marine Fisheries Service
- EPA
- Columbia River Alliance
- Environmental Groups
- Contractors

Virtual Team

- **70+ member virtual multi-agency workgroup.**
- **Members from Washington, Oregon, Idaho, Montana, California, Colorado, Florida and Pennsylvania.**
- **Economic study manager telecommutes from Arizona.**

18 WORKGROUPS

- **Members volunteered for specific workgroups which reflected their interests.**

Components of the Economic Analysis

- National Economic Development (NED)
- Regional Economic Development (RED)
- Other Social Effects (OSE)
- Environmental Quality (EQ)

SPECIFIC STUDIES

- **Hydropower**
- **Navigation**
- **Recreation**
- **Water Supply**
- **Regional Impacts**
- **Social Impacts**
- **Tribal Circumstances**
- **Anadromous Fish**
- **Others**

Summary - Economic Effects

(Relative Average Annual Costs - $Millions)

USER AREA	MAX TRANSPORT	SYSTEM IMPROVEMENT	DAM BREACHING
COST			
Power	-	-	($271)
Navigation	-	-	($24)
Irrigation	-	-	($15)
Implementation	-	($6)	($49)
	-	($6)	($359)
BENEFITS			
Comm. Fishing	-	-	$2
Avoided Costs	-	-	$29
Implementation	$4	-	-
Recreation	$2	$2	$82
Power	$8	$8	-
	$14	$10	$113
Net economic effect	**$14**	**$4**	**($246)**

Note: Numbers reflect change from current condition (base case).

Hydropower Analysis Example

Hydropower Impact Team (HIT)

Hydropower Analysis

- Over 3,000 megawatts of power generating capacity
- Energy generated is 5% of the total regional energy
- Uncertainty of impacts to transmission system

Hydropower Analysis

Hydropower impacts are measured based on the resource cost of the least cost alternative.

- Major study components:
  - System hydropower regulation studies
  - Power system modeling studies
  - Market price projects
  - Capacity studies
  - Transmission/generation reliability assessments
  - Wind energy
  - Conservation
  - Financial analysis

Hydropower Impact Team

- Members from Federal, Regional, and State Agencies
- Industry, Tribes, and Environmental Groups

Process Description

- Required numerous meetings, additional analysis to address team questions

Independent Economic Analysis Board – Technical Review

- Pacific Northwest Power Planning Council's Economic Review Team (Independent Economic Analysis Board)
- Consisted of Eight members, most with PHDs, With Extensive Experience in Resource Economics

Independent Economic Analysis Board – Technical Review -Summary

- Reviewed work as it progressed: Study Plan, preliminary Workgroup reports, draft and final Economic Appendix
  - "DREW and Corps responded positively to IEAB comments"
  - "The Economic Appendix is of a balanced professional quality"
  - Recognized that some elements, such as "existence value" and recreation needed more study

Collaborative Economic Analysis: Summary

- **COSTS**
  - **Regional process is slow.**
  - **Less Corps "control" of process.**
- **BENEFITS**
  - **Regional "buy-in"**
  - **Obtain the best individuals regardless of location**